IN THE CLAIMS

1. **(Previously Presented)** A thermal wave measuring method for contact-free measurement of geometrical or thermal features of a layer structure, comprising the steps of:

    simultaneously driving a modulatable heat source with at least two predetermined discrete and differently modulated frequencies, thereby periodically heating said layer structure;

    receiving infrared radiation emitted by said layer structure that is correspondingly modulated in intensity; and

    evaluating said receiving infrared radiation as a function of a drive frequency on the basis of amplitude or phase by simultaneously interpreting corresponding drive frequencies.

2. **(Previously Presented)** The method according to claim 1, wherein said heat source is a laser, a laser diode, or a light-emitting diode.

3. **(Previously Presented)** The method according to claim 1, further comprising the step of:

    adapting discrete frequency parts of said drive frequencies to a measurement function.

4. **(Previously Presented)** The method according to claim 1, further comprising the step of:

    detecting predetermined frequencies with a lock-in evaluation.

5. **(Previously Presented)** The method according to claim 1, further comprising the step of:

    evaluating individual frequencies using a Fast Fourier Transform.

6. **(Previously Presented)** The method according to claim 4:

further comprising the step of providing an additional evaluation based on a regression analysis or a neural network.

7. **(Previously Presented)** The method according to claim 1, further comprising the step of:

calibrating said method to a specific layer structure utilizing mathematically specific, theoretical values as well as utilizing experimentally supported data.

8. **(Previously Presented)** The method according to claim 1, further comprising the step of:

determining geometrical features given known thermal features of the layer structure.

9. **(Previously Presented)** The method according to claim 5:

further comprising the step of providing an additional evaluation based on a regression analysis or a neural network.

10. **(Previously Presented)** The method according to claim 1, further comprising the step of:

determining thermal features given known geometrical features of the layer structure.